



**Indian Institute of Technology, Kharagpur  
Kharagpur 721 302, WB, India**

**Sub: Procurement of ethernet switches and wireless access points for network expansion and maintenance work**

**Ref: Tender Notice No. IIT/CIC/NETWORK/SWITCH/2020-21/33 dated 31<sup>st</sup> August 2020**

Indian Institute of Technology Kharagpur, an Institute of National Importance, invites sealed bids from reputed **Original Equipment Manufacturers (OEMs)** or **their authorized System Integrators** who have adequate credential for supplying, installing and maintaining similar product in IITs or similar Autonomous Institutions /Universities, Government /Public Sector Undertakings, etc., for procurement of **ethernet switches** and **controller based indoor wireless access points** with **five years** comprehensive onsite warranty.

Interested bidder are requested to send their sealed bids under a **two cover system** as per requirement mentioned in tender document, along with the Technical Specifications & Compliance Certificate (as mentioned in **Specification Annexure-1 to 4**) and the quantity as specified in tender document.

Details are also mentioned in the Institute website [www.iitkgp.ac.in](http://www.iitkgp.ac.in) [link: tenders].

The proposal has to be sent in a sealed packet, containing two separate sealed envelopes (**Technical Bid** and **Price Bid**) duly superscripted with Reference Number (Tender Notice No. **IIT/CIC/NETWORK/SWITCH/2020-21/33 dated 31<sup>st</sup> August 2020**), to the Office of the **Head, Computer & Informatics Centre, Indian Institute of Technology, Kharagpur, P.O. Kharagpur Technology, PIN : 721 302 on or before 23<sup>rd</sup> September 2020 at 3:00 pm.**

The **technical bids** (should also contain detailed un-priced bill of material based on **Table – 1**) **which will be opened on 23<sup>rd</sup> September 2020 at 3:30 pm** in the presence of the bidders or their authorized representatives and price bids will be opened (to be notified separately), only of those firms, who will be found technically qualified/shortlisted, after evaluation of their technical bids.

**Head  
Computer & Informatics Centre**

**Copy to:**  
**1. Institute website**  
**2. CPPP**

## Procurement of ethernet switches and wireless access points

### Introduction

Indian Institute of Technology, Kharagpur has a campus wide network spread over academic, hostel and residential areas, based on optical fiber as a backbone. This state-of-the-art scalable campus network is expanding on regular basis as new academic complexes, hostels and residential complexes are coming up as per Institute needs. In view of this Institute has decided to procure some Ethernet switches and controller based indoor wireless access points for regular expansion and maintenance of its campus network.

### 1. Scope of work:

- I. The scope of the work includes supply, installation, commissioning and integration of the Ethernet switches and indoor wireless access points as per the institute's requirement and maintenance of the same for a period of five years.
- II. All items supplied must have a comprehensive onsite OEM warranty for a period of five years. All the quoted equipments should be from the same OEM.
- III. Complete delivery of the material has to be accomplished within **eight Weeks** of receipt of the purchase order, failing which Liquidation Damage (LD) @ 1% per month of 100% of the total order value will be imposed as per Institute purchase rules. Total liquidated damage will be capped at 5% of the PO value.
- IV. The installation would be deemed as complete only after self-testing of all switches and indoor wireless access points received in good condition. Bidder has to give the undertaking stating that they will install the devices as and when required within the warranty period as directed by Head CIC. Based on the testing and the undertaking given by the vendor final acceptance and certification will be done by Head, CIC, IIT Kharagpur. The warranty period will start after the final acceptance and certification by Head, CIC, IIT Kharagpur.
- V. Selected bidders will have to provide support to IIT Kharagpur personnel to configure and integrate the Ethernet switches and wireless indoor access points as and when required within the warranty period without disturbing the current architecture of the network.
- VI. Institute is having centralized wireless controller "**Cisco 5520**"( Model: AIR-CT5520-K9) in high availability mode installed at CIC. Selected bidder need to integrate the supplied wireless indoor access points into this controller. Institute is having the provision of required licenses in the centralized controller to accommodate the supplied indoor wireless access points. All wireless indoor access points should be supplied along with suitable **power injectors**.
- VII. During warranty period, replacement of defective equipment and shipment of the same should be the responsibility of the selected bidder without any financial commitment from IIT Kharagpur. The same has to complete within ten working days after reporting the problem.
- VIII. In case of any future expansion / up-gradation within the warranty period, necessary changes in the configuration have to be done by the selected bidder for smooth integration / migration at no additional cost.

- IX. The bidder will be liable for any hardware and software up-gradation for maintenance without any extra cost during warranty period. The technical bid must contain make, model and part number of all supplied components along with supported part code.
- X. The bidder should provide onsite comprehensive warranty for **five years** on all items as mentioned in **Table-1**. All products should have 5 years 8 x 5 x NBD (Next Business Day) support commitment with back-to-back agreement with OEM. In case of equipment failure, IIT Kharagpur should be able to log case with the OEM **both** through the bidder and directly without bidder intervention. Emergency response team should be available from OEM directly in case of any critical failures. OEM must have 24\*7 TAC support to address and rectify the issue/problems occurring during the entire warranty period. Latest software upgrade for all products should be available free of without any additional cost during the warranty.

## **2. Pre-Qualification Criteria:**

- I. The bidder should have minimum 10 years of working experience in eastern India in the domain of network infrastructure, with sales and support office in Eastern India. The bidder should have at least 3 orders for supplying network equipment (each of minimum Rs. 25 Lakhs) in the last 3 years either directly or through a system integrator (if bid submitted from OEM). Copies of purchase orders to be submitted as supporting documents.
- II. The bidder should be a profit making entity for each of the last 3 years. Audited P & L reports to be submitted as supporting document.
- III. The bidder should not have been blacklisted by any IITs or similar Autonomous Institutions /Universities, Government /Public Sector Undertakings on the date of submission of this bid. A declaration from the bidder must be submitted.
- IV. The bidder should have a minimum turnover of Rs. 10 Crores per annum during each of last three financial years. Audited balance sheet must be provided.
- V. The bidder should have valid latest ISO 27001 Certification or ISO 9001 Certification.
- VI. The quoted products should not be under end of sales or end of support in next five years from the date of submission.
- VII. OEM should have an office and spare depot in India. Documentary proof from OEM must be submitted.
- VIII. OEM should have Industry presence in India for more than 10 years.
- IX. OEM should have 24 x7 toll-free call center for providing technical assistance.

## **3. General Terms & Conditions:**

- I. **Last Date of Submission of Sealed Bids: 23<sup>rd</sup> September 2017 by 3:00 pm** (In the Office of the Head, Computer & Informatics Centre, Indian Institute of Technology Kharagpur).

- II. **Date of opening of the Technical Bids 23<sup>rd</sup> September at 3:30 pm** (In the Office of the Head, Computer & Informatics Centre, Indian Institute of Technology Kharagpur).
  - III. **Payment Terms:** 90% (value of the purchase order) payment will be made after the successful acceptance of the materials. Balance 10% of the payment will be made on submission of Bank Guarantee of 10% of the total purchase value valid for a period of five years plus three months.
  - IV. **Price:** Price should be **quoted only in Indian Rupees** on free delivery at site **inclusive of all taxes and incidental charges.**
  - V. **Tender Fee:** An amount of **Rs. 10,000.00** (Rupees ten thousand only) inclusive of GST as tender fee (non-refundable) has to be paid. The payment shall be made by Demand Draft from any Bank in favour of "Indian Institute of Technology Kharagpur", payable at "Kharagpur". **The quotation will not be accepted without the Tender Fee.** Tender fee should be enclosed separately in an envelope and stapled with the Technical Bid.
  - VI. **Earnest Money Deposit (EMD):** A refundable amount of **Rs.1,50,000.00** (Rupees one lakh and fifty thousand only) in the form of Demand Draft drawn in favour of "**Indian Institute of Technology Kharagpur**", payable at Kharagpur or Bank Guarantee as per format at **Annexure-5. E.M.D. should be enclosed separately in an envelope and stapled with the Technical Bid document superscribing EMD.** The validity of the EMD should be 6 (six) months from the date of issue. **Any bid without EMD will summarily be rejected. No interest is payable on EMD.** EMD will be refunded to the unsuccessful bidder, finalization of the tender process. The EMD of bidder awarded with the contract to be treated as part of security deposit towards Performance Guarantee. No interest is payable on Security Deposit. Security Deposit shall be forfeited if the selected bidder after awarding of the contract, fails to execute the same.
- NOTE: IIT Kharagpur will give exemption for submission of tender fee and EMD who are registered with MSME or Central Purchase Organization or startups as recognized by DIPP as per revised rule 170 of GFR -2017 only. However proper and valid document in this regard must be submitted by the bidders in support of their claim.
- VII. Conditional Offer will not be accepted.
  - VIII. **Period of Validity:** Bids shall remain valid for acceptance for a period of 120 days from the date of opening of the price bid but any benefit for **downward revision of prices should be extended to the IIT Authority.**
  - IX. Past Performance of the Bidders will be judged at the time of Technical evaluation.
  - X. Complete delivery of the material has to be accomplished within **eight Weeks** of receipt of the purchase order, failing which Liquidation Damage (LD) will be imposed as per Institute purchase rules (refer clause III of Scope of work).
  - XI. The bidder should provide comprehensive onsite warranty for **FIVE YEARS** on all supplied items.
  - XII. Technical bid should also contain the detailed un-priced bill of material mentioning the make, part nos. of individual part items, quantities based on Table-1 and specifications specified in Annexure 1 to 4. The technical bid will be evaluated first for technical suitability. Only technically qualified bids would be considered for price comparison. Price bid should be

quoted in the given format (**Table-1**) indicating the tax components. But total price quoted in the given price bid format as per tender should match the total price calculated from the unit price and quantity. In case of any ambiguity, the price calculated based on the unit rate quoted in the priced bill of material will be considered as the final price.

- XIII. The authorization letter issued by the OEM (specifically against this tender) should be enclosed in original (if OEM is not the bidder).
- XIV. BOM with model and part numbers of the component, the capabilities, operating characteristics, other technical details of the hardware and software offered should be furnished together with product brochures, literature, etc. in the technical bid. The bidder should ensure that the software versions being quoted if any are latest.
- XV. Technical bid should contain all relevant technical details; printed technical leaflet of models quoted and other details, which may be necessary to ensure that offer is complete in all, respect e.g. technical specification, delivery period, guarantee period, validity, etc.
- XVI. Technical bid should also contain a signed “compliance certificate” (Specification Annexure –1 to 4) duly counter signed by the manufacturer or bidder
- XVII. Validity of licenses: Software’s licensing price or policy (if any) shall be clearly mentioned. All licenses should be perpetual with free upgrade during warranty period.
- XVIII. Bidders should also enclose the following documents in the technical bid as proof of their credential:
  - ❖ Tender fee
  - ❖ Earnest Money Deposit (EMD)
  - ❖ Certificate of Registration
  - ❖ Income Tax Certificate of last three years, PAN Number and GST Number.
  - ❖ Banker’s Solvency Certificate.
  - ❖ Summary of Audited Statement of Accounts for the last three years.
  - ❖ Three order copies for computer networking as specified in Pre-qualification Criteria.
  - ❖ Copy of ISO Certifications.
  - ❖ Signed Tender document as a token of acceptance for the Terms & Conditions specified in various sections of the Tender Document

#### **4. Acceptance of Tender**

- I. The Institute does not bind itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the Evaluation.
- II. The Institute does not bind itself to accept the lowest tender and reserves the right to reject any or the entire tender received without assigning any reason thereof.
- III. The bids (technical and price bids) once submitted shall be the property of the Institute and shall not be returned to the bidder in future.
- IV. A bid submitted with false information will not only be rejected but the bidder may also be debarred from participation in future tendering processes.

- V. Canvassing in any form not only invites disqualification in this tender but also debar the bidder participation in the future tendering processes.
- VI. **Opening of Price Bids:** The Price Bid(s) of only those bidder(s) who are found technically qualified will be opened. The date and time will be informed separately.
- VII. An authorized representative (with the proper authorization letter to attend the opening of technical bids and also for opening of price bids) may choose to be present at the time of opening of Technical Bids/Price Bids.
- VIII. Director may accept or reject any or all the bids in part or in full without assigning any reason and does not bind himself to accept the lowest bid. The Institute at its discretion may change the quantity/upgrade the criteria/drop any item or part thereof at any time before placing the Purchase Order. In case of any dispute, the decision of the Director of this Institute shall be final and binding on the bidders.
- IX. This Tender Document and the Contract shall be governed by and interpreted in accordance with Laws in force in India. The Courts at Midnapur shall have exclusive jurisdiction in all matters arising under the contract.

For any query pertaining to this tender, correspondence may be addressed to:

**The Head, Computer & Informatics Centre  
Indian Institute of Technology,  
Kharagpur-721 302  
Email: head@cc.iitkgp.ac.in**

In case the due date for submission and/or opening of the tender happens to be a holiday, the same will be accepted on the next working day. The timings will however remain unchanged. Please Note that the Institute remains closed during Saturdays & Sundays.

**Tender Notice No. IIT/CIC/NETWORK/SWITCH/2020-21/33 dated 31<sup>st</sup> August 2020**

**5. Price Bid Format**

**Table 1: List of Items**

<b>S/ N</b>	<b>Description (Interfaces should be populated from day-1 as mentioned in bullet points)</b>	<b>Specification</b>	<b>Qty. (no.)</b>	<b>Unit Price (Rs.) with 5 years warranty</b>	<b>Tax (Rs.)</b>	<b>Total Price (Rs.) with 5 year warranty</b>
1.	48 port L2 ethernet switch with 1 Gbps SMF fiber uplink(1 fiber module loaded)	As per Annexure-1	46			
2.	24 port L2 ethernet switch with 1 Gbps SMF fiber uplink(1 fiber module loaded)	As per Annexure-2	46			
3.	24 port ethernet POE switch with 1 Gbps SMF fiber uplink(1 fiber module loaded)	As per Annexure-3	16			
4.	Controller based wireless indoor access points along with power injectors	As per Annexure-4	175			
<b>Total Price including all Taxes with 5 years comprehensive onsite warranty</b>						

## Annexure-1

### Specification for 48 port L2 Ethernet Switch

S/N	Specification	Compliance (Yes/ No)
1	<b>General</b>	
1.1	Switch must be enterprise grade in 1 RU form-factor with internal power supply and fanless model.	
1.2	Switch Should have minimum 512 MB RAM	
1.3	Switch Should have minimum 256 MB Flash	
2	<b>Performance</b>	
2.1	Switch shall have minimum 104 Gbps of switching fabric and 77 Mpps of forwarding rate.	
2.2	Shall have minimum 15 K MAC Addresses and 256 Active VLANs	
2.3	Shall have minimum IPv4 and IPv6 multicast routes and 1024 IGMP groups	
2.4	Shall have minimum 50 STP instances	
2.5	Switch should support 1024 IPv4 multicast routes, IGMP groups and IPv6 multicast groups	
2.6	Switch Need to support 600 IPv4/MAC security ACEs and IPv6 security ACEs	
2.7	Switch will support 10240 byte Jumbo Ethernet frame from day 1	
3	<b>Functionality</b>	
3.1	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3az.	
3.2	<b>Industry Standard</b> : 60950-1, CISPR32 Class A, EN55024, RoHS and IPv6 Ready Logo	
3.3	<b>Switch should support enhanced QoS like</b> , egress queues, Ingress policing , QoS through Differentiated Services Code Point (DSCP) mapping and filtering, QoS through traffic classification, Trust boundary, AutoQoS, Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance, 802.1p Class of Service (CoS)	
3.4	<b>Operating Temperature range</b> : -5 to +50 degC	
4	<b>Interface</b>	
4.1	Minimum 48 x 10/100/1000 Base-T ports and additional 4 nos. of 1G SFP based uplinks ports loaded with 1 nos. of single mode LX/LH module from day 1	
4.2	Uplink ports can be used to connect up to eight switches and manage them via a single IP address.	
5	<b>Security</b>	
5.1	Switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	



5.2	Switch should have features like Port-based ACLs, SSH, Kerberos, and SNMP v3, TACACS+ and RADIUS authentication, Web authentication redirection, Multilevel security on console access, Spanning Tree Root Guard (STRG), Internet Group Management Protocol (IGMP) filtering	
5.3	All the switches should support sending last messages through SNMP, syslog, or Ethernet-OAM (Operations Administration and Maintenance) to report the abrupt loss of power to the host platform.	
6	<b>Certification and others:</b>	
6.1	OEM should be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure for last 3 consecutive years.	
6.2	Environmental Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU	
6.3	All the quoted equipments should be from the same OEM	

## Annexure-2

### Specification for 24 port L2 Ethernet Switch

S/N	Specification	Compliance (Yes/ No)
1	<b>General</b>	
1.1	Switch must be enterprise grade in 1 RU form-factor with internal power supply and fanless model.	
1.2	Switch Should have minimum 512 MB RAM	
1.3	Switch Should have minimum 256 MB Flash	
2	<b>Performance</b>	
2.1	Switch shall have minimum 56 Gbps of switching fabric and 41 Mpps of forwarding rate.	
2.2	Shall have minimum 15 K MAC Addresses and 256 Active VLANs	
2.3	Shall have minimum IPv4 and IPv6 multicast routes and 1024 IGMP groups	
2.4	Shall have minimum 50 STP instances	
2.5	Switch should support 1024 IPv4 multicast routes, IGMP groups and IPv6 multicast groups	
2.6	Switch Need to support 600 IPv4/MAC security ACEs and IPv6 security ACEs	
2.7	Switch will support 10240 byte Jumbo Ethernet frame from day 1	
3	<b>Functionality</b>	
3.1	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3az.	
3.2	<b>Industry Standard</b> : 60950-1, CISPR32 Class A, EN55024, RoHS and IPv6 Ready Logo	
3.3	<b>Switch should support enhanced QoS like</b> , egress queues, Ingress policing, QoS through Differentiated Services Code Point (DSCP) mapping and filtering, QoS through traffic classification, Trust boundary, AutoQoS, Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance, 802.1p Class of Service (CoS)	
3.4	<b>Operating Temperature range</b> : -5 to +50 degC	
4	<b>Interface</b>	
4.1	Minimum 24 x 10/100/1000 Base-T ports and additional 4 nos. of 1G SFP based uplinks ports loaded with 1 nos. of single mode LX/LH module from day 1	
4.2	Uplink ports can be used to connect up to eight switches and manage them via a single IP address.	
5	<b>Security</b>	
5.1	Switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
5.2	Switch should have features like Port-based ACLs, SSH, Kerberos, and SNMP	

	v3, TACACS+ and RADIUS authentication, Web authentication redirection, Multilevel security on console access, Spanning Tree Root Guard (STRG), Internet Group Management Protocol (IGMP) filtering	
5.3	All the switches should support sending last messages through SNMP, syslog, or Ethernet-OAM (Operations Administration and Maintenance) to report the abrupt loss of power to the host platform.	
6	<b>Certification and others:</b>	
6.1	OEM should be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure for last 3 consecutive years.	
6.2	Environmental Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU	
6.3	All the quoted equipments should be from the same OEM	

## Annexure-3

### Specification for 24 port POE Ethernet Switch

S/N	Specification	Compliance (Yes/ No)
1	<b>General</b>	
1.1	Switch must be enterprise grade in 1 RU form-factor with internal power supply and fanless model.	
1.2	Switch Should have minimum 512 MB RAM	
1.3	Switch Should have minimum 256 MB Flash	
2	<b>Performance</b>	
2.1	Switch shall have minimum 56 Gbps of switching fabric and 41 Mpps of forwarding rate.	
2.2	Shall have minimum 15 K MAC Addresses and 256 Active VLANs	
2.3	Shall have minimum IPv4 and IPv6 multicast routes and 1024 IGMP groups	
2.4	Shall have minimum 50 STP instances	
2.5	Switch should support 1024 IPv4 multicast routes, IGMP groups and IPv6 multicast groups	
2.6	Switch Need to support 600 IPv4/MAC security ACEs and IPv6 security ACEs	
2.7	Switch will support 10240 byte Jumbo Ethernet frame from day 1	
3	<b>Functionality</b>	
3.1	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3az.	
3.2	<b>Industry Standard</b> :60950-1, CISPR32 Class A, EN55024, RoHS and IPv6 Ready Logo	
3.3	<b>Switch should support enhanced QoS like</b> , egress queues, Ingress policing, QoS through Differentiated Services Code Point (DSCP) mapping and filtering, QoS through traffic classification, Trust boundary, AutoQoS, Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance, 802.1p Class of Service (CoS)	
3.4	Switch should have intelligent power management, allows flexible power allocation across all ports. With Perpetual PoE, the PoE+ power is maintained during a switch reload. So that there is no power disruption during a switch reboot.	
3.5	<b>Operating Temperature range</b> : -5 to +50 degC	
4	<b>Interface</b>	
4.1	Minimum 24 x 10/100/1000 Base-T ports and additional 4 nos. of 1G SFP based uplinks ports loaded with 1 nos. of single mode LX/LH module from day 1	
4.2	Should support for PoE/PoE+ on all ports with PoE budget of 195W.	
4.3	Each POE switch must be capable of providing full power to at least 10 APs	

4.4	Uplink ports can be used to connect up to eight switches and manage them via a single IP address.	
5	<b>Security</b>	
5.1	Switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
5.2	Switch should have features like Port-based ACLs, SSH, Kerberos, and SNMP v3, TACACS+ and RADIUS authentication, Web authentication redirection, Multilevel security on console access, Spanning Tree Root Guard (STRG), Internet Group Management Protocol (IGMP) filtering	
5.3	All the switches should support sending last messages through SNMP, syslog, or Ethernet-OAM (Operations Administration and Maintenance) to report the abrupt loss of power to the host platform.	
6	<b>Certification and others:</b>	
6.1	OEM should be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure for last 3 consecutive years.	
6.2	Environmental Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU	
6.3	All the quoted equipments should be from the same OEM	

## Annexure-4

### Specification for Controller based Wireless Indoor Access points

S/N	Specification	Compliance (Yes/ No)
1	Access Point shall support the latest dual band, 2x2:2SS Wave-2, MU-MIMO standard-based WiFi	
2	Access Point shall provide console port that using standard RJ-45 connector	
3	Must support minimum of 20dbm of transmit power in both 2.4Ghz and 5Ghz radios. And should follow the local regulatory Norms.	
4	Must incorporate radio resource management for power, channel and performance optimization	
5	Must have -97 dB or better Receiver Sensitivity.	
6	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.	
7	Must support Management Frame Protection.	
8	Access Points must support Advanced Encryption Standard (AES) for Wi-Fi Protected Access 3 (WPA3), WPA2, WPA	
9	Must support the ability to serve clients and monitor the RF environment concurrently.	
10	Same model AP that serves clients must be able to be dedicated to monitoring the RF environment.	
11	Must be UL2043	
12	Must support telnet and/or SSH login to APs directly for troubleshooting flexibility.	
13	Must support Power over Ethernet and power injectors.	
14	AP should support 802.11e or WMM	
15	Must support Reliable Multicast to Unicast conversion to maintain video quality at AP level or controller level	
16	Must support QoS and Call Admission Control capabilities.	
17	Access Point should 802.11 DFS certified	
18	The APs proposed should not be quoted with license separately as license is already available on the existing WLC 5520(Model: AIR-CT5520-K9) controller. The proposed APs should get integrated into the network using those licenses.	
19	OEM should be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure for last 3 consecutive years	
20	All the quoted equipments should be from the same OEM and the access points should not be quoted with any extra licenses as the licenses are already available on the existing CISCO 5520 WLC	

**ANNEXURE- 5**

**MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD**

Whereas.....(thereinafter called the “tenderer”)  
has submitted their offer dated .....for the supply of  
.....(hereinafter called the “tender”) against  
the purchaser’s tender Notice No. .... KNOW  
ALL MEN by these presents that WE  
.....of  
.....having our registered office  
at ..... are bound  
unto ..... (hereinafter called the “Purchaser”) in the  
sum of .....for which payment will and truly to be  
made to the said Purchaser, the Bank binds itself, its successors and assigns by these  
presents. Sealed with the Common Seal of the said Bank this .....Day of  
..... 20 .....

**THE CONDITIONS OF THIS OBLIGATION ARE**

- (1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
  - (a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.
  - (b) Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

Bank) (Signature of the authorized officer of the  
Name and designation of the officer  
Seal, name & address of the Bank and  
Address of the Branch